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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/430,289	10/29/1999	KEITH R. D'ALESSIO	100497.02	7047

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EXAMINER

HON, SOW FUN

ART UNIT PAPER NUMBER

1772

DATE MAILED: 02/26/2003

25

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/430,289

Applicant(s)

D'ALESSIO ET AL.

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-59 is/are pending in the application.
- 4a) Of the above claim(s) 21-44, 51-55, 57 and 58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-20, 45-50, 56 and 59 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Request for Reconsideration and Declaration***

#### ***Withdrawn Rejections***

1. The 35 U.S.C. 112,2<sup>nd</sup> paragraph rejection in Paper #11, paragraph 8 (mailed 07/06/01) has been withdrawn due to Applicant's affirmation in Paper # 23 (filed 12/09/02) of the broad interpretation of the limitations in question.
2. The 35 U.S.C. 102(e) and 103(a) rejections over Maeda (aka Tetsuro) as the primary reference in Paper #21 (mailed 07/08/02) have been withdrawn due to Applicant's declaration in Paper # 24 (filed 12/09/02).

#### ***New Rejections***

##### ***Claim Rejections – 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-9, 16-18, 45-47, 56, 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kvidtrud et al. in view of Fehn (US 5,693,283).

Kvidtrud et al. has a container with a dispenser nozzle (squeezable vial with threaded closure cap having a dispensing opening), which can be used for dispensing 1-1-disubstituted ethylene monomer cyanoacrylate (column 1, lines 10-35 and column 3, lines 1-10). Suitable polymeric materials for making the container (vial) include blowmolded low density polyethylene, high density polyethylene (HDPE) and CO<sub>2</sub>R functionalized polyethylene of which polyethylene terephthalate (PET) is a subset (column 3, lines 35-45). Polypropylene is the

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homolog right next to polyethylene, having 3 methyl groups instead of 2 methyl groups in the repeat unit of the polymer. Kvidtrud et al. teaches that the polymeric material has sufficient memory to enable the sections to recover from deformation and fully return to their original shape once finger pressure is released (column 3, lines 25-35).

Kvidtrud et al., however, fails to teach that the inner surface of the container is post-halogenated.

Fehn has a polyethylene container which is post-fluorinated (post-halogenated) (column 4, lines 1-15). Fehn teaches that fluorinating a polyethylene surface provides it with a Teflon-like, nonsticky surface with improved resistance to the escape of volatile organic liquids, and a barrier against contaminant migration into the (contents of the) container (column 3, lines 30-40). One embodiment recites a container with a fluorinated inner surface of high density polyethylene (HDPE) made by contacting the HDPE with fluorine gas (column 5, lines 20-35). The fluorine concentration in the polyethylene surface region would thus be higher than the fluorine concentration in the subsurface region.

Because Fehn teaches that fluorinating a polyethylene surface provides it with a Teflon-like, nonsticky surface with improved resistance to the escape of volatile organic liquids, and a barrier against contaminant migration into the (contents of the) container, it would have been obvious to one of ordinary skill in the art to have used the fluorination process taught by Fehn to fluorinate the inner surface of the polyethylene container of Kvidtrud et al. in order to obtain a container for 1-1-disubstituted ethylene monomer cyanoacrylate with improved shelf-life due to better containment of the monomer and barrier to contaminants.

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5. Claims 10-14, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kvidtrud et al. in view of Fehn as applied to claims 1-9, 16-18, 45-47 above, and further in view of Stehlik.

Kvidtrud et al. has been discussed above, and teaches a container applicator for cyanoacrylates, but fails to specify the alkyl alpha-cyanoacrylates, sterilization of the container, and the presence of halogen-containing acid.

Stehlik has a process for sterilizing (alkyl) alpha-cyanoacrylates with radiation, using hydrofluoric acid (hydrogen fluoride) as the Lewis acid inhibitor (column 1, lines 15-50). Because chlorine is the next halogen to fluorine in the Periodic Table, it would have been obvious to one of ordinary skill in the art to have used hydrochloric acid as an alternate Lewis acid inhibitor which results in the use of post-chlorination instead of post-fluorination treatment of the polymeric material of the container body.

Stehlik teaches that the alkyl group of the alpha-cyanoacrylate has 1-16 carbon atoms (column 1, lines 20-45) which includes 2-octyl cyanoacrylate. Stehlik teaches that the sterilization process on the combination of the alkyl cyanoacrylate and hydrofluoric acid produces a package combination which has a shelf life of at least about thirty months (should not result in reduced stability within a period of at least one year) (column 1, lines 65-72 and column 2, lines 1-5).

Because Stehlik teaches that the sterilization process on the combination of the alkyl cyanoacrylate and hydrofluoric acid produces a package combination which has a shelf life of at least about thirty months, it would have been obvious to one of ordinary skill in the art to have used the sterilization process with the combination of the alkyl cyanoacrylate and hydrofluoric

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acid of Stehlik in the cyanoacrylate dispensing container of Kvidtrud et al. in order to obtain a package combination which has a shelf life of at least about thirty months.

6. Claims 46-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kvidtrud et al. in view of Walles.

Kvidtrud et al. has been discussed above, and teaches a polyolefin dispensing container for 1-1-disubstituted ethylene monomer cyanoacrylate (column 1, lines 10-35 and column 3, lines 1-10). Kvidtrud et al. , however, fails to teach the functionalization of the inner surface of the polyolefin container.

Walles teaches  $\text{SO}_3\text{H}$  group functionalization via the use of  $\text{SO}_3$  gas of polyethylene terephthalate, polyethylene and polypropylene substrates (column 3, lines 15-30) to decrease the permeability of the container to chemicals (column 1, lines 1-40).  $\text{CO}_2$  is the homolog of  $\text{SO}_3$  since C is right next to S in the Periodic Table, and the introduction of would produce the corresponding carboxylic acid  $\text{CO}_2\text{H}$  functionalization of the polyolefin surface.

Walles teaches further reaction (neutralization) with ammonia (abstract) and water (column 5, lines 10-15). One of ordinary skill in the art would have known that ammonia dissolved in water forms ammonium hydroxide, and that the neutralization of the  $\text{SO}_3\text{H}$  group functionality with ammonium hydroxide then forms sulfonamide groups. Walles teaches that the addition of amide (ammonium) functionality to the sulfo ( $\text{SO}_3$ ) functionality improves the effectiveness of the sulfonation treatment (column 1, lines 45-55).

Because Walles teaches that functionalization of the polyolefin surface decreases permeability of the container to chemicals, it would have been obvious to one of ordinary skill in the art to have used the surface functionalization of polyolefin containers as taught by Walles in

**Notice of References Cited**

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**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,693,283	12-1997	Fehn	264/513
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.